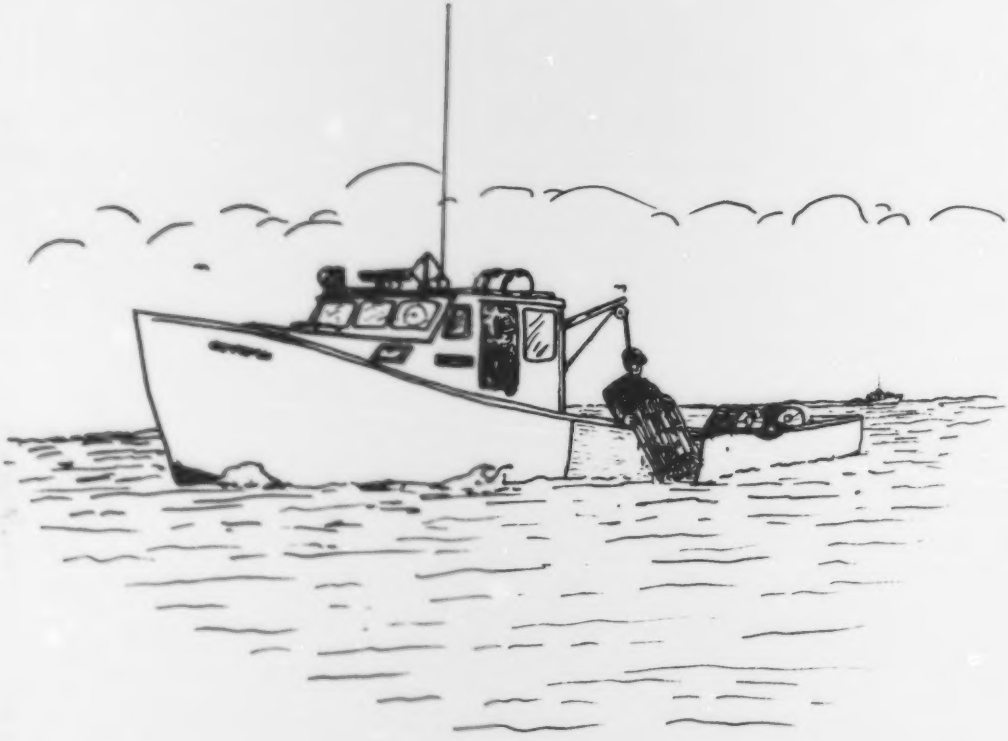
Annual Report

Department of Fisheries

Prince Edward Island

for the year ended December 31st

1987



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TO HIS HONOUR

THE HONOURABLE LLOYD MACPHAIL,

Lieutenant Governor of the Province of Prince Edward Island

May It Please Your Honour:

I have the honour to submit herewith the Report of the Department of Fisheries for the period ended December 31, 1987.

I have the honour to be, Sir.

Your obedient servant,

HONOURABLE JOHNNY ROSS YOUNG
Minister

TO THE HONOURABLE JOHNNY ROSS YOUNG
MINISTER OF FISHERIES
Charlottetown, P.E.I.

Sir:

I have the honour to submit herewith the Report of the Prince Edward Island Department of Fisheries for the period ended December 31, 1987.

Respectfully submitted,

H. Douglas Johnston
Deputy Minister

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FOREWORD

ANNUAL REPORT

The P.E.I. fishery makes a significant contribution to the Island economy, estimated at $180 million in 1987 and employment in the fishery accounts for almost 10% of our workforce. It is estimated that the total direct and indirect contribution of the fishing industry to our Gross Domestic Product is as high as 10% and exports of fishery products can account for almost 40% of total P.E.I. international exports. These impressive statistics are obtained through the efforts of our world class fishermen and processors who have displayed the ability to land and process quality products which compete successfully on the world market.

1987, once again, saw the value of our fishery increase with a record landed value of $72.5 million, accounting for an increase of 7.9% over 1986. The major contribution to the increased performance was the lobster fishery which produced record landings of 18.9 million lbs. and a record landed value of $49.5 million.

While the performance of our lobster fishery is the cornerstone of our success, it also points to the importance of the need to maintain and diversify our performance in other species. The P.E.I. fishery cannot afford to be lulled into a false sense of security by the success of our lobster fishery, when our traditional access to other species is being eroded. This erosion, over time, can adversely affect the contribution which our fishery makes to the P.E.I. economy.

A case in point is the inshore groundfish fishery. P.E.I. inshore groundfish landings were reduced by 43.5% from 1981 to 1986 and the Province's share of the overall Atlantic catch dropped from 3% to 1.8%. Although overall quotas have been down, the drop in P.E.I. landings is more pronounced than the other four Provinces fishing in the Gulf of St. Lawrence. There are a number of factors related to our reduced performance and one of them is the limited mobility of our fleet. Access to our traditional share of Gulf groundfish, by inshore vessels in P.E.I., has been reduced by the fact global quotas have given the competitive advantage to larger, more mobile fleets from other areas. The institution of a separate allocation for mobile gear vessels under 45 feet, in next year's Atlantic Groundfish Management Plan should afford more access to our inshore vessels.

New management concepts in the herring fishery in 1987 also contributed to an erosion of traditional access to herring stocks by P.E.I. fishermen. The concept of managing the herring stocks based on scientific assessment of separate spawning areas is sound. However, when management zones were developed for Fishermen's Bank and the Pictou, N.S. area to accommodate that concept, the zones were also used to restrict access by fishermen due to the fact fishermen had to choose one zone or the other in which to fish and no mobility was permitted.

The fishermen in the Eastern Northumberland Strait have operated as a community of fishermen for many years and mobility between the areas for herring and other species has been the standard practice. The restriction of that mobility has denied access by P.E.I. herring fishermen.

Herring fishermen in Western P.E.I. also suffered under the new zonal management regime. They and fishermen from the Escuminac area of New Brunswick fished in one zone. In order to accommodate the different maturing dates of herring roe on either side of Northumberland Strait, the season opening date was set later in 1987 and herring fishermen in Western P.E.I. lost access to herring which matured early.

Access by P.E.I. fishermen to the Gulf snow crab fishery, which was pioneered in P.E.I., has been an ongoing issue. The positive efforts of the Federal Government in issuing licenses and exploratory permits for P.E.I. fishermen to fish in an exploratory P.E.I. zone have been jeopardized by the access of large midshore crab vessels to that zone. Fishermen in P.E.I. are, in effect, having their access to stocks restricted by being allowed to fish only in the zone while their competitors are permitted access both inside and outside the exploratory zone.

P.E.I. has few alternatives to fishing, farming and tourism, therefore, the economy of P.E.I. cannot withstand an erosion of fair and equitable sharing of the Atlantic fishery resource. These examples of eroded or restricted access to P.E.I.'s traditional share of Gulf of St. Lawrence fish stocks highlight the need for continued cooperative action by the Island's fishing industry and government to assure access is protected in the future.

1987 saw the Department undertake new initiatives aimed at developing our fisheries resources and diversifying our product base. The Aquaculture Development Program undertaken in 1987 was a cooperative effort by the Department, the Department of Social Services and our aquaculture and shellfish industries. The five year $2.25 million dollar program will see development projects

undertaken to increase oyster production, expand trout and mussel production, enhance the quahaug fishery and undertake soft shell clam development. The Program was planned and is being implemented in close cooperation with the fishing industry and the Department of Fisheries and Oceans and the initial work undertaken in 1987 was quite successful. For example, the oyster spat collected as part of the Oyster Enhancement project in 1987, will provide additional sales of $1 million when these oysters are ready for market in 5 years.

The aquaculture sector was also strengthened in 1987 with the announcement that a large land based trout farming operation will be undertaken in Georgetown. The operation is located at the former Georgetown Seafoods plant and should be fully operational in the spring of 1988.

Negotiations between the Department and the Department of Fisheries and Oceans culminated in the signing of an Aquaculture Development Agreement in September 1987. This agreement outlines the roles of each government in the joint planning and cooperative management necessary to ensure the orderly development of aquaculture in P.E.I.

The Department's Groundfish Quality Enhancement Program was once again successful during the past year and improved groundfish prices continued to show high acceptance of our quality products in the marketplace.

Decisions made in the past year should improve the Province's long range performance in the groundfish fishery. The 5,000 metric ton reserve of redfish, formerly earmarked for the reopening of the Georgetown Seafoods plant, was allocated to Usen Fisheries Ltd., thereby repatriating the fish for P.E.I. A decision to institute a Resource Short Plant Program for Gulf redfish was brought about in large measure by the efforts of a group of inshore plant owners in P.E.I. and should provide benefits to that sector of our industry. As well, the decision to provide a separate quota allocation for vessels under 45 feet in the mobile groundfish fishery should provide an opportunity for our inshor. sector to regain access.

Late in 1987, the mussel industry in P.E.I. received a major setback with the identification of a toxin in the product which closed down the market. Other molluscs such as oysters, quahaugs and clams were eventually effected by the closure and shippers of these products incurred substantial losses. The Department, in cooperation with the Department of Fisheries and Oceans, undertook a major effort to sample products to determine the cause of the problem and develop the necessary safeguards to return the products to the market. This work will continue into 1988 and I am confident the P.E.I. cultured mussel industry will rebound and continue to expand and that Malpeque oysters will once again be the choice of the consumer.

I want to conclude by expressing my thanks to the various sectors

of the fishing industry for their input, guidance and support during the past year. We have a small staff in our Department, however, with the continued leadership and direction by Minister Young and the loyalty and dedication by the entire staff, we have been able to accomplish a great deal during 1987.

H. Douglas Johnston
Deputy Minister

DEPARTMENT OF FISHERIES

ADMINISTRATION

The approved budget for the Department of Fisheries for the fiscal year, April 1, 1986 to March 31, 1987 was $2,534,300. Total expenditure was $2,425,313.

Total Revenue for the 1986-1987 fiscal year was $33,899.

The programs of the Department were carried out by fifteen full time staff during 1987. In addition to full time staff, there were eighteen seasonal employees on staff during May to December.

A detailed expenditure report of the department for fiscal year 1986/87 follows:

REPORT OF DEPARTMENT EXPENDITURES
April 1, 1986 - March 31, 1987

Expenditures	Original Estimate	Actual Expenditure
FISHERIES ADMINISTRATION		
Administration	34,000	37,758.95
Equipment	14,100	18,358.98
Materials/Supplies	4,100	4,746.65
Professional Services	65,000	30,786.61
Salaries	118,800	135,695.32
Travel	20,600	20,456.75
TOTAL	256,600	247,803.26
EXTENSION		
Administration	1,000	1,606.22
Materials/Supplies	169,700	150,743.96
Professional Services	15,000	3,334.16
Salaries	255,700	274,780.93
Travel	40,900	42,444.85
Aquaculture Incentive	15,000	42,587.33
Fishermen's Quality Enhancement	240,000	294,382.72
Malpeque Oyster Cultures Inc.	1,300	1,518.81
P.E.I. Fishermen's Ass'n.	30,000	30,000.00
P.E.I. Seafood Processors	9,900	9,900.00
Travel Grant for Fishermen	10,600	4,150.30
Baitshed Program	18,000	18,000.00
TOTAL	807,100	873,449.28
PRODUCTION AND MARKETING		
Materials/Supplies	57,800	42,292.17
Professional Services	35,000	4,998.50
Salaries	177,300	162,542.39
Travel	24,400	30,806.96
Commercial Fishermen's Investment Incentive	199,000	184,899.45
Nearshore Vessel Program	175,000	174,999.64

Expenditures	Original Estimate		Actual Expenditure
PRODUCTION AND MARKETING		(cont'd.)	
Fresh Fish Market Assistance	36,400		23,908.12
Diesel Engine Conversion Program	101,000		100,855.56
Product Utilization Grant	80,000		61,047.05
TOTAL	885,900		786,349.84
PROCESSING & QUALITY			
Equipment	5,400		790.00
Materials/Supplies	32,900		13,656.33
Professional Services	45,800		39,257.00
Salaries	122,500		130,365.03
Travel	20,300		25,543.15
Processors Fish Quality Dev't Program	107,800		100,830.00
TOTAL	334,700		310,441.51
SEAWEED MARKET STABILIZATION			
Materials/Supplies	250,000		207,268.77
TOTAL	250,000		207,268.77
DEPARTMENT TOTALS	2,534,300		2,425,312.66

REVENUE

April 1, 1986 - March 31, 1987

FISHERIES ADMINISTRATION		
Miscellaneous	50.00	$ 50.00
EXTENSION		
Fees & Services	19,960.90	
Sales (Fishboxes)	4,482.00	$24,442.90
PRODUCTION/MARKETING		
Fees and Services	1,972.10	
	1,259.10	$ 3,231.20
PROCESSING/QUALITY		
Licenses and Permits	2,900.00	
Fees and Services	2,375.00	$ 5,275.00
Miscellaneous (Seaweed Market Stabilization)	900.00	$ 900.00
TOTAL DEPARTMENT REVENUE		**$33,899.10**

PRINCE EDWARD ISLAND FISHERIES

The year 1987 has seen overall landings decrease by 4,093,547 lbs. compared to the 1986 recorded figures. Preliminary figures show 1987 landings of 119,122,018 lbs. The total landed value of all fishery products reached $72.5 million, an increase of 7.9% over the 1986 value.

The industry presently employs 6,100 people, approximately 3,700 in fishing and 2,400 in processing. Many more are employed in industries which support the fishery such as outfitting and vessel construction. It is estimated that in excess of $180 million is contributed annually to the P.E.I. economy from the primary and secondary fisheries sectors and support industries.

Total groundfish landings in 1987 decreased to 28.4 million lbs. representing a 5.8% decrease from 1986. The value, however, increased by 34.5% raising the value to $7.5 million. With respect to the dominant groundfish species, increases have been recorded in hake and flatfish, while decreases have occurred in landings of cod, and redfish. Hake landings increased by 29.1% raising the landings from 3.5 million lbs. in 1986 to 4.6 million lbs. in 1987. Landings of all flatfish, including greysole, yellowtails, blackbacks and flounder have increased by 3.7% while the value increased by 70.4%. Looking at each species separately, landings increased in all but flounder, which dropped by 7.9%. Cod and redfish landings showed the greatest decline with a decrease of 16.4% and 22.3% respectively. The total value of cod remained on par with 1986 but total value of redfish decreased by 22.3%.

Landings of all pelagic and estuarial fish decreased to 30.5 million pounds, down from 33.9 million pounds in 1986, representing a decrease of 10.1%. The value of these landings decreased by 6.1% to $4.5 million. Mackerel and herring landings decreased by 14.2% and 6.2% respectively. The value of mackerel also decreased by 14.2% while the value of herring increased by 3.2%. Eel landings decreased from 403,118 lbs. in 1986 to 361,497 lbs. in 1987. The value of these landings increased by 12.1% raising the value to $542 thousand. Smelt landings and values showed significant decreases of 43.9% and 36.8% respectively. Silverside landings increased dramatically from 30,633 lbs. to 276,974 lbs. Tuna landings dropped by 26.8% with a recorded landing of 53,269 lbs.

Total mollusc and crustacean landings decreased by 5.5% dropping from 31.4 million lbs. in 1986 to 29.7 million lbs. in 1987. The value of these landings increased by 6.1% from $54.9 million in 1986 to $58.3 million in 1987. The lobster fishery, once again, showed improvement this year with an increase in landings of 2.9% and an increase of 11.3% in value to reach a

record of $49.5 million. Bar clam and quahaug landings showed significant increases of 9.2% and 96.4% respectively. Rock crab landings more than doubled from 369,078 lbs. in 1986 to 964,613 lbs. in 1987. Oyster and snow crab landings dropped this year by 19.9% and 62.5% respectively. The value of oysters in 1987, stayed on par with 1986, but the value of snow crab dropped from $2.9 million in 1986 to $1.4 million in 1987

Seaplant landings increased by 2.8 million pounds to 30.6 million lbs. for 1987 with an increase in value of 18.5% giving a total value of 2.0 million.

The landed Weight and value for fish and seaplants in P.E.I. in 1987 with comparative figures for 1986 are as follows:

P.E.I. FISH LANDINGS AND VALUES
1986-1987

SPECIES	1986		1987*	
Groundfish	**Pounds**	**Value $000**	**Pounds**	**Value $000**
Cod	9,989,950	$2,497.4	8,351,110	$2,505.3
Hake	3,573,272	321.5	4,614,547	1,384.4
Flounder	3,999,824	1,199.9	3,684,161	1,842.1
Blackbacks	1,024,032	307.2	1,362,978	681.5
Greysole	6,949	1.4	20,252	12.2
Yellowtails	33,706	6.7	184,038	46.0
Redfish	10,111,915	1,213.4	7,864,466	943.7
Halibut	20,982	14.7	13,364	10.7
Haddock	20,839	3.1	2,215	1.1
Pollock	6,700	2.0	221,491	55.4
Tomcod	162,875	8.1	48,029	9.6
Fishmeal	1,164,490	11.6	1,997,756	20.0
TOTAL	**30,115,534**	**$5,587.0**	**28,364,407**	**$7,512.0**
Pelagic				
Tuna	72,811	$ 369.2	53,269	$ 239.7
Mackerel	10,635,713	1,276.3	9,132,397	1,095.9
Herring	20,502,940	2,050.3	19,235,200	2,115.9
Gaspereaux	986,764	98.7	727,078	109.1
Eels	403,118	483.7	361,497	542.2
Smelts	1,111,744	444.7	624,323	280.9
Silversides	30,633	4.6	276,974	55.4
Salmon	6,376	28.7	7,584	27.7
Trout	20,000	45.0	20,000	47.0
Animal Feed	110,229	11.0	38,197	3.8
TOTAL	**33,880,328**	**$4,812.2**	**30,476,519**	**$4,517.6**

SPECIES	1986		1987*	
Shellfish	**Pounds**	**Value**	**Pounds**	**Value**
Lobster	18,327,633	44,494.2	18,867,512	$49,532.0
Bar Clams	889,749	177.9	971,707	252.6
S.S. Clams	861,054	473.6	798,949	599.2
Quahaugs	629,399	409.1	1,235,903	1,112.3
Scallops	337,974	2,196.8	245,547	1,350.5
Mussels	2,685,100	1,879.6	2,282,452	1,711.8
Oysters	3,706,226	2,409.0	2,968,453	2,226.3
Snow Crab**	3,628,858	2,903.1	1,359,556	1,359.6
Rock Crab	369,078	55.4	964,613	192.9
TOTAL	31,435,071	$54,998.7	29,694,692	$58,337.2
TOTAL FISH	95,430,933	$65,287.9	88,535,618	$70,366.8
MARINE PLANTS	27,784,632	$ 1,806.0	30,586,400	$2,141.0
TOTAL FISHERY PRODUCTS	123,215,565	$67,203.9	119,122,018	$72,507.8

* Preliminary

** Includes landings by N.B. vessels (P.E.I. Total 2.9 million lbs. in 1986 and 1.28 million lbs. in 1987)

DEPARTMENT OF FISHERIES

The following table shows the comparisons for P.E.I.'s landings and values, by species, groups, over the period 1970 - 1987.

PRINCE EDWARD ISLAND, 1970-1987
Landings, Quantity and Values by Species
(In thousands of lbs. and thousands of dollars)

		Groundfish	Pelagic & Estuarial	Molluscs & Crustaceans	Marine Plants	Seafish Total Excluding Marine Plants	Total
1970	Q.	33,668	54,853	11,837	67,004	100,358	Q.167,360
	V.	1,353	928	7,298	1,558	9,579	V. 11,167
1971	Q.	39,440	47,012	11,047	50,764	97,499	Q.148,263
	V.	1,635	968	6,822	937	9,425	V. 10,361
1972	Q.	37,650	9,711	9,226	30,028	56,587	Q. 86,615
	V.	1,693	522	7,293	581	9,508	V. 10,089
1973	Q.	38,510	14,014	10,325	49,123	62,850	Q.111,973
	V.	2,132	899	8,209	1,172	11,241	V. 12,414
1974	Q.	17,083	9,667	8,830	76,036	35,661	Q.111,617
	V.	1,087	788	6,995	3,106	8,870	V. 11,977
1975	Q.	15,032	5,529	11,352	40,318	31,914	Q. 72,232
	V.	1,058	670	9,078	1,610	10,806	V. 12,416
1976	Q.	14,972	6,998	11,263	28,843	33,233	Q. 62,075
	V.	1,091	1,077	9,673	878	11,841	V. 12,719
1977	Q.	22,454	5,548	11,849	30,116	39,851	Q. 69,967
	V.	2,137	1,156	10,786	1,085	14,078	V. 15,164
1978	Q.	28,248	8,850	15,307	31,709	52,905	Q. 84,614
	V.	3,154	1,605	17,928	1,873	22,697	V. 24,560
1979	Q.	33,995	10,581	16,716	42,943	61,273	Q.104,216
	V.	4,300	1,898	20,259	2,689	26,457	V. 29,146
1980	Q.	42,252	1,238	16,475	35,225	70,966	Q.106,191
	V.	4,672	2,302	18,037	1,781	25,011	V. 26,792
1981	Q.	45,144	14,035	17,568	37,485	76,747	Q.114,231
	V.	5,413	2,309	22,258	1,874	29,982	V. 31,856
1982	Q.	42,223	18,046	18,672	34,043	78,942	Q.112,986
	V.	4,823	2,524	26,379	1,702	33,726	V. 35,428
1983	Q.	45,039	20,736	21,955	28,709	87,730	Q.116,439
	V.	4,883	3,539	34,365	1,435	42,787	V. 44,222
1984	Q.	41,646	15,581	21,579	34,724	78,806	Q.113,585
	V.	4,461	3,262	28,323	1,736	36,046	V. 37,821
1985	Q.	34,247	20,280	26,580	38,402	81,107	Q.119,509
	V.	4,823	3,639	40,905	2,496	49,366	V. 51,863
1986	Q.	30,116	33,880	31,435	27,785	95,431	Q.123,216
	V.	5,587	4,812	54,999	1,806	65,398	V. 67,204
1987*	Q.	28,364	30,476	29,694	30,586	88,536	Q.119,122
	V.	7,512	4,518	58,337	2,141	70,367	V. 72,508

* Preliminary

COMMERCIAL FISHERIES BRANCH

Lewie Creed, Director

The Commercial Fisheries Branch is responsible for carrying out a full range of programs and services for P.E.I. fishermen and processors. The Branch includes the four Divisions of Extension, Resource Utilization and Marketing, Aquaculture and Processing and Quality.

The Director is also responsible for ongoing liaison with the Department of Fisheries and Oceans and provides support services on issues addressed by the Federal Provincial Atlantic Fisheries Committee and the Atlantic Council of Fisheries Ministers. As well, the Director coordinates the Department's interface with other Provincial Departments and Agencies.

Fisheries Act Committee

A committee was commissioned by the Minister of Fisheries in 1986, to make recommendations regarding a P.E.I. Fisheries Act. The committee included membership representing fishermen and processors from various organizations in the P.E.I. fishery. The Director was a non-voting member of the committee and provided support and research services to the committee. The Fisheries Act Committee have completed their work and will be presenting a report to the Minister early in 1988.

ECONOMIC REGIONAL DEVELOPMENT AGREEMENT

In June of 1984, the P.E.I. Department of Fisheries and the Department of Fisheries and Oceans signed a five year $10 million Fisheries Development Sub-Agreement. The terms of the agreement call for $7.5 million in federal development spending over the five years and $2.5 million in new development initiatives by the P.E.I. Department of Fisheries.

The Director provided support services to the Fisheries Management Committee which has been organized to coordinate fisheries programs under E.R.D.A. Membership of the Committee consists of the Area Manager, Department of Fisheries and Economic and Regional Development representing the Federal Government, the Deputy Minister of P.E.I. Department of Fisheries in addition to a representative of Treasury Board representing the Province. The Committee regularly reviews fisheries programming under the Sub-Agreement to ensure programs of both levels of government are complimentary to each other and to ensure effective response to the needs of the fishery.

The Director also co-chaired the E.R.D.A. Management Committee working group which undertook planning in 1987 for a detailed evaluation of the agreement.

A detailed report on the activities of each Division follows.

EXTENSION DIVISION

Friend Herring and Rory McLellan

The role of the Extension Division is to provide a service to and be a source of information for the fishing industry, the public and the media. This Division has the objective of determining the fishing industry's needs, bringing them to the attention of the appropriate authorities and assisting the Department to develop sound policies and programs. This work includes information programs, fisheries promotions, assistance to fishermen and their organizations, provision of training courses, organizing technical upgrading (travel) ventures and cooperation with the Department's remaining divisions.

Late in 1986, a new Departmental organization lead to the creation of an Aquaculture Division staffed by Irwin Judson and Brian Gillis, both previously included with extension. The Extension Division did, however, continue association with the aquaculture sector by organizing and supervising the Oyster Enhancement Project of the Aquaculture Development Program. During 1987, Friend Herring continued to be the personal contact to the Western ports of the Province, as well as managing the Oyster Enhancement Project, and Rory McLellan was responsible for all Eastern harbours.

A number of activities took place at the various shore locations including particular developments and issues at 55 Island ports. Many of these activities took the form of information sessions held in community halls with the participation of both Federal and Provincial Government Departments, directly associated with the fishery.

FISHERMEN'S INFORMATION SERVICE

A number of information programs were organized or continued and carried out by the Extension Division during the year.

Radio Broadcasts

A weekly five minute radio broadcast covering fish prices and markets was produced by the Division during the period May 8 - November 13, 1987. The program was aired on radio stations CFCY, CHTN and CJRW on weekends. Several local newspapers and one Maritime bi-monthly fisheries magazine also carried this information.

The Marine weather service, sponsored by the Extension Service since 1971, is now broadcast on a daily basis by local radio stations with sponsorship by the private sector.

Booth Displays

Display booths were placed at major fairs and exhibitions held throughout P.E.I. during the summer months. The purpose of the displays was to increase and promote general awareness of the P.E.I. fishing industry and the role of the Department.

Two summer employees, Paul MacDonald and Paula Fay were responsible for assembling the displays and supervising their operation at the various events. Displays were placed at St. Lawrence Scallop Festival, Tignish Irish Moss Festival, Souris Trade Show, Summerside Lobster Carnival, Northumberland Fisheries Festival, Country Days and Old Home Week, and the Kensington Harvest Festival.

Two events of special note were the St. Lawrence Scallop Festival where staff was involved in judging the scallop shucking competition and the Northumberland Fisheries Festival where the Department again sponsored the scallop shucking and fish filleting competition. This year, retired master fisherman "Buddy" Clifton MacCormack was available to discuss special fisheries topics of interest to booth visitors. His knowledge and experience was very much appreciated at the shows in Summerside, Charlottetown, Kensington and Souris.

On March 4th, and 5th, the Fifth Marine Diesel and Electronics Show was held at West Prince Centre, Elmsdale, where the Department assisted Mary Lou Rogers of Holland College to organize more than 30 exhibitors. More than 500 fishermen and people interested in marine equipment attended the show, which included survival rafts and suits, diesel engines, fishing gear, supplies, and fish handling containers. Plans are for an even bigger and better show in 1988.

Publications

The Extension Division continued the popular promotion button with the logo "Serve P.E.I. Fish-It's Catching" with 15,000 being distributed at booth displays and other functions during the year.

The Extension Division revised and updated a number of species information pamphlets on lobster, cod, scallop, soft-shell clams, mackerel and smelts.

A number of news releases on projects and programs of the Department were provided to local news media and national and international trade journals. Promotional advertisements were also prepared for a number of local, regional and national publications.

PORT MAINTENANCE

The Department continued to provide for the minor maintenance and power consumption costs of 116 electrical services located at 53 Island fishing ports or shore sites. These services include wharf lighting systems and electrical outlets, as well as power for water system pumps. This service ensures that adequate lighting and water supplies are maintained and functional for the convenience and safety of all port users.

In co-operation with the P.E.I. Department of Health and Social Services, the Extension Division helped co-ordinate a program which provided port custodians or night watchmen at most major P.E.I. fishing ports. The custodians were hired by Social Services through their Job Creation Program for social assistance recipients. The Program was well received by fishermen and the presence of the night watchmen resulted in an almost total reduction in thefts and vandalism at the ports and supervision of boats, particularly during storm situations, was of great benefit to fishermen. Since this Program, to supply custodians, was first undertaken in 1983, a total of 560 people have been employed.

For approximately 15 years, the Extension personnel of the Department have been assisting fishermen's port committees to plan, apply for and administer job creation projects that produced better conditions at Island ports. The usual developments undertaken through these projects have been construction of fishermen's buildings and new wharf facilities with Miminegash making use of a Section 38 Program of C.E.I.C during the past year for wharf repairs and baitshed construction.

In 1987, the Department increased activities at Lower Bedeque to improve working conditions for oystermen traveling considerable distances and living in small travel trailers. Nearly 4,000 cubic yards of fill and rip rap enlarged an area near the 1986 work site where basic utilities such as power, light and water were provided. This facility is proving successful, other shore sites at York Point, Hickeys Wharf, and Brehauts Shore were upgraded with various utilities. Other minor port improvements were carried out at several sites throughout the Province, i.e. Cape Egmont, West River and Malpeque.

FISHERMEN'S HOLDING FACILITIES

A Fishermen's Holding Facilities Program or Baitshed Program was reinstated during the fiscal year 1984-85. This program provides 75% of the material costs required to construct new fishermen's holding or storage units. The maximum grant is $1,000 per unit on new construction or $600 per unit for up-grading existing holding units, when feasible. There is a restriction of limiting financial assistance to once only per fisherman.

To-date, financial assistance during the past three fiscal years is reported in the following, expressed as the numbers of bait shed units.

PORT	FISCAL YEAR 84/85	85/86	86/87	87/88
Beach Point	2	2	-	3
Cape Egmont	-	-	-	2
French River	1	-	1	-
Georgetown	-	3	-	-
Grahams Pond	-	-	1	-
Higgins Wharf	1	1	2	-
Launching	1	-	1	-
Lower Montague	-	-	1	-
Montague	-	-	-	2
Malpeque	2	5	-	-
Darnley	1	2	-	-
Milligans Wharf	-	1	4	-
Miminegash	-	-	-	3
Mink River	-	-	1	-
Naufrage	-	3	2	-
North Lake	1 + 1 Renov.	-	-	-
Red Head (Morell)	-	-	1	-
Rustico Harbour	1	-	-	-
Souris	-	-	4	-
Summerside	1	1	-	1
Victoria	1	-	-	-
YEARLY TOTALS	12 New Unit +1 Renov.	18	18	11*

*NOTE: 5 Additional units are expected to be completed by March 31st at Miminegash and one at Milligans Wharf.

Requests continue to be received and at the time of writing total approximately 20 new and 3 renovations.

TECHNOLOGY TRAINING PROGRAM (E.R.D.A.)

The purpose of the Technology Training Program is to ensure that training courses with major emphasis on quality and safety improvements are provided to the P.E.I. fishing industry. Training for fishermen which stresses safety at sea, is dealt with under the Extension Division. Quality oriented courses will be described through reports by the Processing and Quality Division.

Because of recent marine accidents on the Atlantic Coast which led to loss of life and equipment, increased concern at

government levels led to investigations like the R.J. Grey Report, authored by a British Columbia consultant involved with industrial relations. Transport Canada, through its Coast Guard Search and Rescue Branch, has stepped up safety related studies and proposals using several working committees that consist of representatives from the various levels involved with Canada's fishing industry.

As a result of these concerns, the Division sponsored a number of diesel engine maintenance courses held in the major fishing communities throughout the Province in January and February. Studies have identified mechanical failure as the primary cause of incidents that require response by Search and Rescue. More than 200 Island fishermen endorsed these half-day sessions conducted by W.J. deRuiter and which included the following content:

1. The principles of operation of an internal combustion engine;
2. The main differences between gasoline and diesel engines as safety and economic factors;
3. Engine horsepower and trque with fuel consumption a major consideration;
4. Reduction ratios and propeller sizing;
5. Regular and proper maintenance of vessel and equipment, engine mounting options, cooling systems, and correct installation of on board electrical systems.

Traditionally the Department of Fisheries has worked closely with the Canada Employment and Immigration Commission to deliver fishermens courses through Holland College. Lately, the CEIC has refocused the priorities for its budget and as a result, courses like Boat Refitting and Repair, and Nets and Gear Repair are no longer funded. Where interest is sufficient, the Department will cost-share training courses previously listed with the participating fishermen using Holland College as a source of instructors and material.

Under this system of cost-sharing, usually 50-50, two welding courses were given at night in Montague and Charlottetown during the January, February, March time period. Late in 1987, the Department and Holland College developed a Loran C - VHF radio course lasting 5 days and leading to a Department of Communications certificate. This safety related training is given in the major community centres for the convenience of participating fishermen.

During October of 1987, the Department mailed a questionnaire to every bonafide fisherman asking him and his crew to indicate preferences for any and all courses of interest. The response indicated an increased interest and desired participation by the Island fishermen in training courses and continued

demand especially among the younger operators who are new to the fishery. In a further effort to reach fishermen and increase their knowledge of the sea, the Department is assisting 3 community schools to offer condensed sessions with qualified instructors. It is hoped that this will convince participants to enroll in regular training courses in the future. The communities planning this service are Tignish, O'Leary and Morell.

MOBILE BOAT HOIST

The Department has assisted more than 20 fishermen obtain larger vessels and these vessels, known as the Mid-Shore Fleet, which are located at various Island ports, have requirements above and beyond that of traditional Island vessels. One such requirement is their need to be removed from the water by equipment larger than the traditional boat haulers.

To satisfy this need, the Extension Division has researched various types of boat hoists, their capabilities, their operating costs and their purchase price.

In order to determine the appropriate hoist for the Island fleet, the Division hired a marine architect to analyze and determine the weight of vessels. The boat builders of these vessels were contacted and asked to provide design plans and estimated weights of these vessels. To provide precise information, the Division, with the cooperation of the Department of Transportation and Public Works, lifted one of the vessels and weighed it using a crane and highway scales.

The weight and proportions of the hoist have now been determined and the Division continues to involve the fishermen users in meetings to discuss management and operation of this hoist.

This project will be complete in March, 1988, with the purchase of a 35 Ton capacity, mobile boat hoist. This hoist will be P.E.I.'s contribution to a 3 million dollar Transport Canada Wharf Construction at the Port of Souris.

SCHOOL PRESENTATIONS

The Division was responsible for classroom presentations at 5 Island schools. These presentations included a slide-tape show, and a demonstration of how various types of fishing gear worked. Students were given time to ask questions of staff and to participate in gear demonstration.

In 1987, the division produced "The Island Fishery", an audio visual presentation to highlight the Islands diversified fishery. This film will be completed by the summer of 1988 and will be used in schools and Marine and Seafood Shows where interest in the fishery is apparent.

MAMMAL REMOVAL PROGRAM

The Department assumed responsibility for the removal and disposal of stranded mammals beginning in 1973 and in 1987, fifteen marine mammals, mostly harbour seals, were removed from various shore locations and buried. The Department cost shared the burial of a 77-1/2 foot female Blue Whale at Nail Pond with the National Museum of Natural History, Ottawa, on a 25:75 basis. The total whale burial cost was $4,000 and the museum plans to retrieve the skeleton for future display.

General

Staff of the Extension Division represented the Department on various industry committees including: Federal/Provincial Atlantic Fisheries Committee Development and Quality Sub-Committees, the District 8, 7 and 7B1 Scallop Advisory Committees, the District 8, 7 and 7B1 Lobster Advisory Committees, the Seaplants Advisory Committee, the Marine Safety Advisory Committee, the Search and Rescue Committee, and the Ad Hoc Fisheries Training Committee.

Division staff represents the Department on the Atlantic Bluefin Tuna Advisory Committee. This Committee develops management proposals on an annual basis for consideration and approval by the Federal Minister of Fisheries and Oceans. Canada is a member of the International Commission for the Conservation of Atlantic Tuna that has fifteen member countries. ICCAT concluded "the spawning stock has declined sharply since 1970, that recruitment and the juvenile stocksize are substantially lower than 1970". Although the catch limit remains at 2,660 MT, landings show the continuing decline in the spawning stock which is generally agreed to be at age ten years and older.

RESOURCE UTILIZATION AND MARKETING DIVISION

David Younker, Gerry Ridgeway, Barbara Harmes
Barbara Williams

The Resource Utilization and Marketing Division works with the P.E.I. fishing industry to represent the resource needs of the various sectors in developing management plans for the fishery. As well, the Division provides services to the fishing industry to coordinate raw material supply with market demand and encourage the development of value added processing of the Province's fisheries resources.

-- To develop the necessary data base to carry out consultations with the Federal management to ensure P.E.I.'s position on equitable access to fisheries resources is well represented.

-- To provide a service to the industry in test marketing new products, and to encourage the development of an improved fresh fish industry on P.E.I.

-- To provide market intelligence to the P.E.I. fishing industry.

-- To promote the consumption of fish products both locally and outside the Province.

-- To work with the fishing industry and other related Departments in developing new products for expansion and modernization of processing capability in order to increase value in the production of P.E.I. fisheries resources.

A brief description of the programs and projects carried out by the Resource Utilization and Marketing Division during 1987 follows:

1. Product Utilization and Test Production

These programs were designed to support the marketing function by developing and assisting in projects to evaluate new opportunities identified within the fishery.

Projects during the 1987-88 fiscal year were designed to better utilize the landings of herring that were available to the P.E.I. industry.

Smoked Herring: A project was entered into with Egmont Bay Seafoods in Egmont Bay, to construct a facility for producing smoked herring (bloaters). The production of bloater herring has

been recognized by the Department as an opportunity on Prince Edward Island and a study conducted in early 1987 substantiated this view. It is anticipated that other facilities will be constructed to take advantage of this perceived opportunity for increased value added production within the Province.

Herring Roe: Projects were entered into with Georgetown Packers Ltd. and North Shore Packing Co. to purchase equipment for their processing facilities for the production of herring roe for the Japanese market. These projects enabled greater utilization of herring on Prince Edward Island during the 1987 fall herring season.

FRESH FISH MARKET ASSISTANCE

a) Grants

The Department designed a Fresh Fish Retail Market Assistance Program to encourage the availability of fresh fish to local consumers and visitors and to provide further outlets for fishermen's product.

This program provided for 50% of the capital costs of equipment for a fresh fish facility to a maximum grant of $5,000. In 1987, several establishments were assisted and retail outlets which were set up in previous years, received further assistance where eligible.

Also, under this program, efforts were undertaken to encourage fresh fish markets and food stores to present attractive displays of quality fresh fish. The improvement in quality of fresh fish has, in general, increased consumption. The promotional aspect has also played a major role. Posters, display materials, recipe booklets and other materials were provided to the retailers. As well, technical advice on handling fish was provided.

b) Retail Seminar

A one day seminar for more than twenty Island retailers of fish and shellfish was sponsored by the Resource Utilization and Marketing Division. Participants in the seminar included both experienced retailers and those who were just entering the business. A variety of topics were covered ranging from sanitation in the retail outlet to weights and measures regulations. Particular emphasis was placed on practical advertising suggestions for the independent retail outlet.

c) Retail Newsletter

"The Seafood Bulletin", a quarterly newsletter for seafood retailers on P.E.I. now has a distribution list of approximately

60. The newsletter is aimed at keeping the seafood retailers informed of the latest happenings in the fishing industry. Topics discussed included quality control, seafood availability and marketing strategies. Additional copies were available as training materials for staff of seafood retail outlets.

TRADE SHOWS

a) Canadian Food and Beverage Show

The first ever "Canadian Food and Beverage Show" was held in February in Toronto. The show featured a great deal of seafood and attracted top quality food service representatives from across Canada. From an attractively decorated fisheries booth, representatives of the Department of Fisheries displayed a variety of Island seafood products and distributed samples of steamed "Island Blue" cultured mussels and other Island seafood products.

b) Centrex '87

"Centrex '87", the major restaurant show in the Prairie Provinces, was held in Winnipeg in October, 1987. This year was the first time the Department of Fisheries sponsored a booth in this largely attended show. The P.E.I. seafood products which were both displayed and sampled in the booth, were very well received by the restaurant trade. The high level of participation exhibited at the show indicates that this area is becoming more interested in seafood products.

c) Tourism '87

A booth was shared by the P.E.I. Departments of Fisheries and Agriculture at the 1987 P.E.I. Tourism Trade Show held in Summerside, P.E.I. A potato and mussel chowder which was available for sampling, was especially popular with the trade. Promotional materials, including posters and recipe cards were distributed. As well, an informal survey was conducted on the promotional materials that were most useful in the restaurants.

PROMOTION

a) Seafood Barbecues

Out of the Sea and Over the Coals -- A barbecue promotion program was carried out in National, Provincial and private campgrounds from June to September. Two summer students were employed to travel to the campgrounds and conduct demonstrations which concentrated on how to barbecue seafood. During the demonstrations, the staff discussed the value of the Island fishery, the different methods of cooking seafood and the high

nutritional value of seafood. Approximately 1800 people attended during the summer period and had the opportunity to sample the barbecued fish, collect various recipe brochures and ask questions pertaining to P.E.I. seafood.

b) Seafood Festivals

In addition to the campground demonstrations, the "Out of the Sea and Over the Coals" staff participated in the fishery festivals that are held across the province. At these events, staff carried out a brief explanation on how to barbecue seafood and distributed samples of the fish that was prepared on the grill. The major fishery festivals attended included Northumberland Fisheries Festival, Saint Lawrence Scallop Festival and the West Point Lighthouse Festival.

c) Car Ferry Displays

As a pilot project, one summer student was hired to set up a display booth on the ferry boats "M.V. Confederation" and "M.V. Abegweit". During the crossings the preparation of seafood dishes was demonstrated and samples were then distributed. Travelers had the opportunity to ask questions about where to buy seafood as well as general questions on cooking fish and shellfish. Pamphlets were also distributed during the demonstrations.

d) Test Kitchen

The test kitchen facility served as a base of operations for all summer staff working on promotional activities. As well, the fully equipped kitchen was used when developing and testing recipes and carrying out seafood research. In addition, the kitchen was used when preparing for demonstrations, displays and trade shows. Upon request, the kitchen was also available for use by members of the seafood industry.

e) Seafood Demonstrations/Display

(i) In-Store Demonstrations - Several in-store demonstrations were held through out the year. The demonstrations featured a variety of seafoods. In addition a demonstration was held at the Bloomfield Farmer's Market.

(ii) Booth Demonstrations - A summer employee carried out seafood cooking demonstrations in conjunction with the general fisheries booth that the Extension Division of the Department placed at major Island festivals. The festivals attended included: Souris Exhibition, St. Lawrence Scallop Festival, Tignish Irish Moss Festival, Eastern Kings Marine Show, Summerside Lobster Carnival, Northumberland Fisheries Festival, Tyne Valley

Oyster Festival, Charlottetown Old Home Week and Kensington Harvest Festival. The demonstrations were a major attraction with many people stopping to ask questions, collect recipe brochures and sample seafood.

(iv) Special Events - A variety of consumer demonstrations were carried out as requested by groups including community schools and senior citizen clubs. Special displays were set up for events such as the West Isle Marine Show, Crapaud Exhibition, Murray Harbour Heritage Days, North Lake Aquatic Day and the Atlantic Plus Dinner.

(v) **Airport Display** - As part of an extensive tourism display at the Charlottetown Airport, the P.E.I. Departments of Fisheries and Agriculture cooperated in setting up two colorful display panels promoting Island fish and farm products. The panels feature photographs of Island products.

e) **Promotional Material**

(i) Microwave Brochure - In response to an increasing demand for methods of preparing seafood in the microwave oven, a brochure called "Microwave The Catch" was produced. The brochure outlines general microwave cooking practices and contains sixteen seafood recipes.

(ii) This Week on P.E.I. - In cooperation with P.E.I. seafood retailers an attractive, full-colour, two page advertisement was inserted in the "This Week on P.E.I." summer weekly publication. The ad featured a colour photograph of Island seafoods and a listing showing the location of the thirty-six participating retail establishments. Approximately 200,000 copies of this brochure were distributed.

(iii) Island Product Poster - To assist in the increasing number of promotions that include both fish and farm products, an Island Product poster was developed in cooperation with the P.E.I. Department of Agriculture and the P.E.I. Development Agency. The poster, under the theme of "Can't You Just Taste It?" featured an assortment of both fresh and processed Island foods.

(iv) General - An assortment of promotional materials, including brochures, posters, hanging mobiles, pins, aprons, and stickers were reprinted and used in an effort to gain increased exposure for seafoods. These materials were distributed in response to numerous requests from retailers, consumers and educators.

f) Advertising

Advertisements on the variety and availability of Island seafoods were placed in newspapers and magazines throughout the year and regular consumer articles were inserted in a local paper on a bimonthly basis.

Full colour advertisements were placed in a special food insert of the Atlantic Insight and in the 1987 edition of Island Restaurant Menus. The ads were a joint project with the P.E.I. Department of Agriculture and the P.E.I. Development Agency and promoted the use of local food products.

Through the "Telegraphics Computer Terminals" set up at strategic locations on P.E.I. (i.e. Confederation Centre, Charlottetown Airport), information was made available to the public on the dates for fishing festivals, and locations of barbecue demonstrations.

g) November Fish and Seafood Month

For the tenth year November was designated as Fish and Seafood Month in Canada. During this month, special promotions aimed at increasing the awareness and consumption of seafood were carried out by government, retailers and processors. The Seafood Advisory Council, an association of seven major Canadian seafood processors, cosponsored many of the November Fish and Seafood Month activities. The theme of the 1987 campaign was "Seafood ... Better than Ever".

The third annual Celebrity Cooking Contest was organized by the Department of Fisheries to recognize the 1987 November Fish and Seafood Month on P.E.I. The contest involved eleven representatives of media, government and the fishing industry preparing a favorite shellfish dish. A panel of three judges selected Wayne Collins of C.B.C.'s "Island Morning" as the winner.

STATISTICS AND MARKET INFORMATION

A primary purpose of this function is to acquire and make available to the Department and to the industry, detailed and timely statistical information on all segments of the fishery in this Province. During 1987, information was updated in such areas as fish landings and values, seafood production, fish processors and their products, employment levels in fishing, export sales figures and other related topics. As well, publications containing this type of information were prepared and released.

(a) **Fish Price and Market Report**

The compilation of this weekly report involved the collection of information on fish prices and market conditions and was provided to the fishing industry through the Department's radio program and regional newspapers. This data was collected at the end of each week to provide a view of the previous week's prices. A selected number of processing plants on P.E.I. and a number of fishery representatives from other Atlantic Provinces were contacted for fish prices. Maritime fish prices were confirmed through a weekly telex supplied by the Department of Fisheries and Oceans in Halifax. Information on prices and market trends for the Eastern United States was received from the National Marine Service in Boston, Mass.

(b) **Statistical Review**

The Fisheries Statistical Review was compiled to present a historical overview of P.E.I.'s fishing industry. This document consists of fish landings and values by species and by district, average prices received by P.E.I. fishermen, seafood products of each of the Atlantic Provinces, catches and values of fish from the other Maritime Provinces, exports by product and country of destination, numerous graphs, and other related fishery data. The Review has been updated and is available for public distribution.

(c) **Tuna**

This Division annually monitors and analyzes fishermen's catch records to provide information on which to base future management decisions.

The P.E.I. bluefin fishery grew from a total of five fish landed in 1967 to a peak of 1,048 fish landed in 1974. The allowable quota for P.E.I. from 1985 to 1987, was 660 fish. In 1986, 74 tuna were landed by P.E.I. fishermen, while in 1987, 55 tuna were caught. Of these 55 tuna landed by P.E.I. fishermen in 1987, eight were caught in Nova Scotia waters and landed in Nova Scotia.

The "tended line fishing method" was introduced to this fishery in 1981 and today the majority of bluefin tuna are landed by this method. Rod and reel fishing continued from some ports by those fishermen who charter their fishing boats. Approximately 49 bluefin tuna were landed in 1987, by the tended line fishing method, while 6 bluefin were landed by rod and reel.

The average weight of tuna landed in 1987 was 971 lbs., with the largest tuna weighing 1,275 lbs. For comparison, in 1986, the average weight of all tuna landed was 981 lbs., with the largest tuna weighing 1,248 lbs. In 1985, the average weight was

1,023 lb. with the largest tuna weighing 1,400 lbs.

The following is a summary of the number of tuna landed by port for the past five years.

Port	1983	1984	1985	1986	1987
Skinners Pond)	-	-	-	-	-
Sea Cow Pond)	444	-	7	12	-
Tignish)	-	219	95	34	33
Malpeque	3	-	-	-	-
North Rustico	22	2	5	-	-
French River	15	1	1	-	-
Stanley Bridge	4	-	-	-	-
Tracadie	2	-	4	-	-
Savage Harbour	18	1	7	1	-
Morell	17	7	15	-	2
Naufrage	61	44	34	4	4
North Lake	103	46	39	17	7
Souris	1	-	-	-	-
Annandale	1	3	2	-	1
Graham's Pond	10	-	1	-	-
Beach Point	46	10	4	1	-
Murray Harbour	42	1	7	5	-
TOTAL	789	334*	222	74	47**

* Additional landings of 58 by P.E.I. fishermen in N.S. ports for a total of 392

** Additional landings of 8 by P.E.I. fishermen in N.S. ports for a total of 55.

Three world records have been established in North Lake with regard to the Bluefin Tuna sports fishery. In 1977, Patricia Kuhnle of New York, broke the 80 lb.test line record for women by landing an 884 lb. tuna. In 1978, Dr. Colette Peras, of Montreal, broke the 130 lb. test line record for women, by landing an 1,170 lb. tuna. In 1985, Dr. Jack Steffey of California, broke the 80 lb. test line record for men, by landing a tuna weighing 1,116 lb.

The Bluefin tuna received a range of prices in 1987. As the season progresses, fatter tuna are landed and the demand for this fish usually increases, resulting in higher prices to fishermen. On P.E.I., Bluefin tuna fishermen received $3.00 per pound at the beginning of the season. This price rose to a high of $5.50 per pound by the end of the season. In 1986, tuna prices ranged from $2.00 - $10.00 per pound.

The week receiving the largest catch of Bluefin tuna on P.E.I., in 1987 was August 30th - September 5th when 16 tuna were landed. In 1986, the week of the largest catch was September 21st - 27th, when 15 tuna were landed.

(d) Snow Crab

This Division also monitors Snow (Queen) Crab landings throughout the fishing season to provide information on which to base management decisions.

P.E.I. was granted 16 exploratory permits in December of 1984 and a further 14 snow crab exploratory permits were granted in April 1986. The first 16 exploratory permits were converted to permanent licenses in 1987 and the other 14 remained as exploratory permits. P.E.I. snow crab fishermen operate in two zones, 25 & 26 and fish primarily off the North Shore of P.E.I. Area 26, is the larger of the zones extending into the Gulf of St. Lawrence from North Cape to East Point. In 1985, only P.E.I. fishermen were permitted to fish in these zones. However, in 1986, permission to fish in this exploratory zone was granted to a number of offshore vessels from Quebec and New Brunswick by the Department of Fisheries and Oceans and they retained this privilege in 1987.

Information assembled on snow crab provided an indication of the value of the fishery, where the main fishing areas were located and on the processing of snow crab.

The Snow Crab fishery is monitored by the Federal Department of Fisheries and Oceans with regard to quality and fishing seasons. This year, on P.E.I. the snow crab fishery was open from April 25th to July 29th and from October 5th to November 30th. However, weather conditions didn't allow fishermen to fish before May 15th. Landings by P.E.I. fishermen in the spring were 660 thousand pounds while 620 thousand pounds were landed in the fall period. This indicates a decrease in landings of 56% compared to 1986.

(e) Seafood Products Directory

The Seafood Products Directory was updated during the year. This publication indicates the seafood products produced by P.E.I.'s Provincially Licensed and Federally Registered Export plants and P.E.I.'s Provincially Licensed Non-Export Plants. It also includes the major Shellfish Shippers and their seafood products, and the harvesting seasons of all species. A glossary of all P.E.I.'s fish species and their scientific names are also included in the directory. This publication is a buyer's guide for seafood produced in the Province and it is distributed locally, nationally, and internationally upon request.

(f) Employment in Fish Processing

Information on 1986 employment levels in P.E.I.'s Fish Processing Industry was tabulated from forty-six export and non-export processing plants. The results indicate that the maximum employment period occurs in May with over 2400 people being employed.

(g) General

The Fishery Statistics Pamphlet was reprinted to reflect annual up-to-date information. This pamphlet is used as a quick guide to research fishery statistical data, and is used in all information packages.

The Bluefin Tuna pamphlet was also reprinted to reflect current statistics. This pamphlet is distributed to tuna charter establishments, interested processors, school children and in general is used as a reference for numerous requests on this fishery.

(h) Resource Monitoring

The Resource Monitoring Program is an Island wide project employing three seasonal employees to monitor the commercial landings of a variety of landed fish species. The primary data collected was the length frequencies of fin fish. This monitoring has been carried out by the Department since 1979.

Information collected on P.E.I. has also been provided to the scientists in the Department of Fisheries and Oceans in Moncton, New Brunswick for their use.

Table 1: The mean length frequencies and number of mackerel and herring measured from the commercial catch on P.E.I., 1983 - 1987 inclusive.

Fish Species	Number Measured					Mean Length (cm.)				
	1983	1984	1985	1986	1987	1983	1984	1985	1986	1987
Mackerel	1297	5779	3060	9629	4086	33.5	33.2	33.6	34.0	35.2
Herring	3294	6600	1957	3553	3624	30.1	28.9	28.7	29.3	28.6

The length frequencies of cod have been taken on a variety of gear types, (i.e. 65' draggers, pair seiners, single draggers, gill nets, longline, handline (jig) and offshore draggers) for a number of years.

Table 2: Mean length frequencies of cod in cms. from 1982 to 1987 from different gear types.

GEAR TYPE	1982	1983	1984	1985	1986	1987
Danish Seine	52.2	57.6	48.7	50.9	47.5	48.1
Pair Seine	53.3	56.3	50.9	51.8	51.5	48.6
Single Dragger	51.3	54.7	51.6	51.0	49.2	48.2
Nets	60.1	60.4	61.4	55.9	58.2	54.4
Longline	59.4	55.3	54.0	54.3	61.4	53.0
Handline	52.4	53.4	54.9	52.0	50.0	49.2

Table 3: Mean length frequencies of hake in cm. from 1982 to 1987 from different gear types.

GEAR TYPE	1982	1983	1984	1985	1986	1987
Danish Seine	64.7	67.4	55.4	60.6	61.5	57.4
Pair Seine	65.2	62.9	62.5	61.1	63.6	55.9
Single Dragger	61.9	63.2	62.5	59.0	58.7	54.3
Nets	69.8	69.7	71.1	69.5	71.4	67.5
Longline	67.5	71.8	68.5	73.5	71.8	68.0

Table 4: Mean Length frequencies of redfish in cms. from 1981 to 1987 inclusive.

YEAR	TOTAL MEASURED	MEAN LENGTH
1981	2,669	30.9
1982	5,206	30.9
1983	4,363	31.7
1984	6,626	31.9
1985	1,785	29.2
1986	5,928	31.4
1987	6,789	31.9

The following species of flat fish: Yellowtails, Flounder, and Blackbacks were also monitored at various harbours around P.E.I. during the Resource Monitoring Program. Table 5 gives these results with comparisons.

Table 5: Mean Length Frequencies in cm. from 1984 to 1987

FISH SPECIES	MEAN LENGTH FREQUENCY (cm)			
	1984	1985	1986	1987
Yellowtail	29.0	29.8	30.2	30.7
Flounder	37.5	37.1	36.9	35.1
Blackbacks	29.5	29.6	28.7	28.8

The data collected under this program is useful for market research work and monitors the size of fish landed. This program also provides basic information that helps determine the Province's position within the various fisheries management and industry development strategies.

Other

Statistical data such as information from the Resource Monitoring project, fish prices and landings, Boston groundfish and shellfish prices, tuna landings, employment levels in processing plants, and fish exports were applied to the Department's computer.

General

Staff of the Division also represented the Department on a number of species management committees during the year, namely: The Atlantic and the Gulf Groundfish Advisory Committees: Gulf Snow Crab Advisory Committee and the Small Pelagics (Herring and Mackerel) Committee. These Committees develop management proposals on an annual basis for consideration and approval by the Federal Minister of Fisheries and Oceans. Provincial representation is of paramount importance in ensuring the interests of the Province is maintained in the context of the negotiation procedure.

Division staff also held membership on the FPAFC Working Group studying Enterprise Allocations in the Groundfish fishery, the Canada/France Advisory Committee, the P.E.I. Primary Products Marketing Committee, the Working Group on Atlantic Fisheries Trade, the Atlantic Seafood Promotion Committee, Interdepartmental Nutrition Committee and the Mussel Festival Committee.

AQUACULTURE DIVISION

Irwin Judson, Brian Gillis

The year 1987 was a busy one for the Aquaculture Division, with the signing of a federal-provincial agreement on aquaculture, coupled with the introduction of a new five year Aquaculture Development Program. A new Division was set up in late 1986, separate from the Extension Division, which had provided programs and services to the aquaculture sector in recent years. The Extension Division did, however, continue association with the aquaculture sector by organizing and supervising the Oyster Enhancement project of the Aquaculture Development Program. Current staff in the Aquaculture Division includes two permanent (program manager and technician), one full time temporary and several casual employees.

The Canada - Prince Edward Island Aquaculture Agreement outlines the roles of each level of government in the joint planning and cooperative management necessary to ensure the orderly development of aquaculture in P.E.I. The agreement also provides for federal Department of Fisheries and Oceans to carry out and sponsor research in aquaculture and continue its responsibilities in licensing and leasing with provision of longer term stability and tenure and improved property rights conveyed to the licensee. The Province will continue its leadership in education, extension, financial programs and technology transfer. As well, both levels of government will direct programs toward the development of aquaculture on Prince Edward Island.

A five year $2.25 million Aquaculture Development Program was launched in 1987. The Program was a cooperative undertaking between the Department, the Department of Health and Social Services and the aquaculture and shellfish industries. The Program was planned and is being implemented in close cooperation with the Department of Fisheries and Oceans and the fishing industry. Funding was provided for projects in oyster enhancement, trout and mussel expansion and investigation of quahaug culture and soft shell clam depuration. Each of these projects is described later in this report.

Meanwhile, the Department continued its ongoing programs in support of mussel and trout culture. The Department continued its mussel spatfall prediction and meat yield analysis service. Because of the large number of growers presently involved, it was not possible to cover every mussel lease in production. Instead, representative sites were chosen in the sixteen major mussel producing areas. Sixty-six different growers were supplied with bi-weekly reports on the meat condition index as well as the concentration of mussel larvae in the water in their area of operation. The growers found this information of great assistance in planning their time of harvest, spatfall collection effort, and the time of setting out their seeded socks.

Expansion continued in mussel production capacity although the effects of the 1986 summer mortality compounded by cessation of harvesting on November 29, 1987, due to an unknown toxic factor caused total landings to fall to about 2.3 million pounds, down about 15% from 1986 levels.

The November 29, 1987 mussel closure was followed by a health advisory issued by Health and Welfare Canada and the Department of Fisheries and Oceans on December 11, 1987. That advisory, closed marketing of mussels, oysters, clams and quahaugs from all waters of Atlantic Canada, due to detection of a toxin in P.E.I. mussels and in oysters from Caraquet Bay, N.B.

Subsequent to the closure, a massive sampling and research effort was undertaken. The focus of that effort was twofold: (1) sampling of closed areas in an effort to clear unaffected or cleansed product for re-entry to the market; (2) research to determine the cause of the problem and institute effective monitoring and testing regimes to avoid future problems.

The P.E.I. Department of Fisheries played a significant role in the effort through assistance to the industry and the Departments of Fisheries and Oceans and Health and Welfare Canada. That role included coordination of communications with the P.E.I. shellfish industry; field sampling of shellfish and plankton from water areas throughout the Province for analysis by research groups; support of research and analysis efforts of the Atlantic Veterinary College and the research work carried out by Dr. Louis Hanic at the University of Prince Edward Island; provision of temperature and salinity data amassed from the mussel monitoring project; and coordinating sample analysis in Norway, Sweden and Denmark on behalf of mussel growers. It is hoped that this research effort, coupled with the long standing reputation for excellence that P.E.I. shellfish enjoyed in the marketplace, will allow the industry to fully rebound in 1988.

Research into the current health status of the mussels by the Atlantic Veterinary College and mussel growth and survival comparisons by the Bedford Institute of Oceanography, both projects partially in response to the 1986 summer mortality episode, contributed useful information to the investigation.

Another problem experienced by the mussel industry in 1987 was a severe infestation by starfish of the major spatfall collection area in St. Peters Bay. A large amount of seed was lost and advice and assistance in starfish control by lime was provided to the growers. The overall effects on the growth of the industry will be substantially reduced by the entry in 1987 of several growers specializing in the provision of seed to grow out operators.

On a positive note, a paper prepared by the division manager summarizing the operations of the Prince Edward Island mussel industry, was accepted for presentation at a European aquaculture conference in Amsterdam and was subsequently published.

A conference on the status and prospects for aquaculture in the Atlantic Canada region was hosted in Charlottetown in February, 1987. Participants represented the oyster, mussel, trout and salmon culture industries of Prince Edward Island, Newfoundland, Nova Scotia, New Brunswick and Quebec.

The construction of a major land based indoor facility for the production of trout and salmon, jointly owned by Canadian and Norwegian investors, is the major development in the province's salmonid culture industry for 1987. Taking over the Georgetown Seafoods plant, construction will be completed in early 1988 and the facility will have the capacity to produce 400 tonnes per year. Approximately 40,000 rainbow trout fingerlings are presently housed on site in temporary tanks. Annual requirements are expected to be about 180,000 fingerlings to be obtained from on-Island hatcheries.

The advent of major investment in Prince Edward Island trout and salmon culture has spurred the confidence of existing growers who now feel that there will be on-going demand for hatchery production and sufficient bulk to the Island production to make a marketing strategy worthwhile. This confidence supplemented by the Department's new financial assistance package (Trout Production Enhancement Incentive) has initiated a number of new operations and expansion of a number of existing ones.

In cooperation with the Processing Division, a handbook "Trout Processing Code of Practice" was prepared for the use of growers and processors of trout. As well as demonstrating proper harvesting and handling techniques, it summarizes the factors involved in putting out a product meeting exacting standards.

In regard to coastal zone management, several advancements have been made. A bridge replacing the causeway across West River was completed in September. Within days of breaching the causeway, excellent improvement in the water quality and sediment removal upstream was noticed. It is expected that improvements will accrue in a major way to the shellfish fishery and other estuarine fisheries such as eels and gaspereaux. The division staff participated in the working group guiding the development of an Initial Environmental Evaluation of the proposed Northumberland Strait Crossing (Fixed Link). Guidelines and standards by which aquaculture will be permitted, and the zoning of the river systems around P.E.I. for aquaculture, are in the stages of development.

The first year of operation of a trailer park at Lower Bedeque, for the use of oyster fishermen, was very successful. Constructed at government expense, it was managed by a committee appointed by the Prince County Shellfish Association. Rental was charged to the users and the income was applied to the cost of electrical power for lighting and water and for garbage disposal. Temporary arrangements were made in Alexandra for quahaug fisher-

men and arrangements are under negotiation in York Point.

Taking advantage of the Department of Industry's Provincial Youth Development Program, the Department was instrumental in supplying five students to trout growers and eight students to mussel growers for the purpose of gaining job-experience.

The Department co-operated with the various aquaculture associations in promoting appropriate taxation policies to the Department of Finance. The discussions have resulted in policies that provide sales tax exemption on a list of specified items for aquaculturists obtaining more than 25% of their gross income from aquaculture, and allow operations in the development phase (less than 25% of gross income) to obtain a rebate, upon application, for tax paid on the listed items.

Aquaculture Incentive Program

1987 marked the sixth year of the Aquaculture Incentive Program which was devised with assistance in its design by the Trout Growers Association and Cultured Mussel Growers Association. The form of assistance depended upon whether (a) a mussel operation or (b) a trout operation is being established.

(a) Mussel Growing: A buoy stockpile was established upon which a mussel grower may draw up to 1,000 buoys.

Buoy stockpile activity was up sharply in 1987. A total of 14,300 buoys valued at $32,032 were provided to twenty-three growers.

A total of 45,675 buoys valued at $106,209 have been provided to 72 growers over the six years the program has been in existence.

(b) Trout Growing: The trout grower submits his proposal for development of his trout operation and indicates the specialized items for which he desires assistance to a maximum assistance of $2,000. In addition, the grower may be forgiven the cost of up to 500 fingerlings for the first year. Five trout growers received a total of $5,839 in repayable assistance during the year and 2,000 fingerlings valued at $1,685 were provided.

Twenty-nine trout growers received a total of $26,612 in repayable assistance as well as 12,000 fingerlings valued at $7,801 in the first six years of the program.

With the exception of fingerlings, the mussel or trout grower is required to repay the value of the assistance plus interest. When the assistance is repaid in

full on or before the date of maturity, an incentive grant in the form of a 25% deduction of the capital advance will be allowed.

Aquaculture Loan Program

The Aquaculture Loan Program is available to bonafide mussel and trout growers possessing the necessary leases and licenses as well as at least two years pilot scale experience who wish to scale up to a commercial operation. Initiated in late 1983 to provide confidence in the aquaculture industry to the financial community, the program has supported loans through the Prince Edward Island Lending Authority in the amount of $476,632.

Aquaculture Development Program

The program is based on a flexible five year development strategy and is comprised of five components: oyster enhancement, quahaug culture, mussel production enhancement, trout production enhancement and soft shell clam depuration.

Oyster Enhancement Project

During 1987, an oyster enhancement project was begun in cooperation with the Department of Fisheries and Oceans and the Prince County Shellfish Association. This Association is legally incorporated and represents the shellfish interests of all Island harvesters of shellfish in public grounds.

The aim of this project is to increase the Island's production of oysters which in turn increases the financial returns to the harvesters, dealers and the provincial economy. Efforts began in 1987 to collect oyster spat by use of collector material, to relay oysters from areas of heavy concentration to areas of lesser concentration, and to de-silt bottom to improve the conditions for natural spat collection.

To assist in implementing these plans, the Department of Health and Social Services developed a job creation program to provide the employees needed to carry out the activities which the project involves. Approximately two hundred and fifty thousand dollars was approved by Health and Social Services for the salaries of approximately 80 welfare recipients referred to the job by that Department's offices in O'Leary, Summerside and Charlottetown. Work began in mid-May and continued into 1988 using Charlottetown and Ellerslie as the two activity centers.

Actual work accomplished included preparing and filling approximately 53,000 mesh bags with clam and oyster shell which acts as a collector for the free swimming larva to "set-on" as it becomes the spat and then the seed oyster of the future. These collector bags were suspended in the rivers and creeks on hardwood (poplar) fences in mid-July. The actual fencing material (small diameter, 15 foot length poles) was cut on

Department of Forestry property (primarily in the Mount Stewart area) and trucked to sites on the East River and the Smelt/Paugh Creek areas. Approximately 6,000 poles were cut to allow for adequate fencing to accommodate the 53,000 collectors.

Beginning in mid-September, the collector bags were lifted from the fencing and opened, boxed and transported to a number of good grow-out rivers such as East River, Lot 16, Hardy's Point, Bedeque Bay and Wilmot. The new oysters had, by this time, grown on the shell collectors to about 18mm to 24mm (the size of a dime or a quarter). These young oysters will grow to market size (75mm) within 5 years providing added income valued at one million dollars.

At selected areas within the East River (Cranberry Wharf) and Bedeque/Cascumpeque Bay, a total of approximately 2,775 boxes of oysters were relayed to deeper, better growing bottom and should be ready for market within three years with a value of about one quarter million dollars. These relay activities will be substantially increased when a federal Department of Fisheries and Oceans barge-pump is in production for harvesting both shell for collection purposes and clusters of live oysters which will grow faster and straighter when de-clumped and moved to new growing bottom.

This oyster enhancement project requires a considerable number of oyster dories, outboards and related equipment, all demanding continual repair and maintenance. Work such as just described is now progressing so the project will be ready to go again in 1988.

The job creation employees were supervised by a staff of four managers funded through direct grants from the P.E.I. Department of Fisheries and the Department of Fisheries and Oceans, provided to the Prince County Shellfish Association as the administration agency. Travel expenses and material purchases needed to equip the project were also jointly funded by the two levels of government.

The oyster harvesters and dealers are satisfied with the progress achieved in 1988 considering it was year one of a five year program. Various aspects of the project will be expanded, refined or modified through joint discussions among all the interest groups represented in this oyster enhancement project.

Quahaug Culture

The quahaug culture project in 1987 carried out several major activities. It summarized the history of earlier experimentation with quahaug hatchery methods on P.E.I. and reviewed current quahaug culture as practiced in New England through literature search. As well, a tour of twelve privately run hatcheries and grow-out operations by an advance party of

four was conducted in August, followed in November, by a group of twelve, including seven shellfish growers and fishermen, two employees of the Prince County Shellfish Association, one from the Department of Fisheries and Oceans and two from the Aquaculture Division. The project also handled 488,000 quahaug seed from the aquaculture technology course of Holland College. Traying and bottom plak experiments were carried out in Bentick Cove, Grand River, Lot 10 River, Gibbs Creek, Bedeque, Shipyard Creek, North Lake, South Lake and Bideford. A comprehensive report including recommendations for applying the knowledge gained is being prepared, and will show that there is a high potential for development programs for quahaug culture.

Mussel Production Enhancement Incentive Program

The Mussel Production Enhancement Incentive Program is designed to assist mussel growers who have shown satisfactory results in their pilot projects to expand. The program provides a 25% grant to a maximum assistance of $1,000 for specialized gear and equipment. In its first year in 1987, nineteen growers participated for total grant assistance of $17,650.

Trout Production Enhancement Incentive Program

The Trout Production Enhancement Incentive Program is designed to assist trout growers who have demonstrated viability in pilot scale operations to expand. The program offers a 50% grant to a maximum assistance of $3,000 for buildings and equipment specifically for trout culture. In 1987, four trout growers participated for total grant assistance of $12,000.

Clam Depuration

The Department participated with the Department of Fisheries and Oceans, the National Research Council and the Prince County Shellfish Association in a project to assess the feasibility of cleansing clams from marginally contaminated areas by transferring them to submerged racks in clean water. Ten 500 pound lots of clams were harvested in the Barbara Weit River for depuration trials in New London Bay. Although encouraging, the results were not definitive. Further such trials may provide more technical information. Land based tank operations using water treated with ultra-violet light offer an alternative. Successful implementation of one or other of the methods offers an opportunity for increased shellfish development on Prince Edward Island.

PROCESSING AND QUALITY DIVISION

Lloyd Murphy, Lynn Wall

The role of the Processing and Quality Division is to increase the availability and utilization of raw material and encourage innovative processing techniques to satisfy market demand and improve fish quality for the consumer. Two personnel act as a resource centre for the fish processing sector. The Division implements the Prince Edward Island Fish Inspection Act and Regulations, the Processors' Quality Enhancement and the Fishermen's Quality Enhancement Program.

Activities undertaken during the twelve months ending December 31, 1987 follow:

Fish Inspection Act:

The Prince Edward Island Fish Inspection Act and Regulations give the Province authority to ensure that seafood is purchased, processed and marketed under sanitary conditions.

Each registered non-export facility is routinely examined to determine if plant construction and sanitation regulations are adhered to.

During the 1987 season, 182 fish buying licenses and 52 fish processing licenses were issued.

The Province, through an agreement with the Department of Fisheries and Oceans, utilizes the services of the Inspection Branch to enforce regulations in the Prince Edward Island Fish Inspection Act. A Provincial fishery technician hired in 1985 assists with the monitoring of the regulations with non-export processing plants on the Island.

Due to the increasing trend of unprocessed raw product leaving the Island over the last few years, the Department has increased its activity in the monitoring of fish buyers licenses issued. In the case of canner lobster, the Department encourages any company or individual to have 50% or more of their purchases processed on P.E.I.

During the 1987 fishing season, a number of complaints on fish quality were investigated and recommendations for improvements were suggested. Due to a number of quality improvement programs in place in Prince Edward Island, there has been a noticeable increase in landed fish quality.

Professional Services

Assistance is available to all Island processing plants enabling them to engage professionals to assess, demonstrate or instruct in processing methods and techniques. Funds are available on a cost shared basis and could include in-plant quality control mechanisms, production analysis, end-of-line grading, etc.

The major project carried out in 1987 included the following:

(a) Island Saltfish Inc. was assisted to engage the services of John Coulton, a salt fish processing professional, during 1987, to provide technical assistance in their plant at Desable. During the year, the duties of Mr. Coulton included:

(1) Training: Train fishermen packers and plant workers as to proper methods of splitting, salting, sizing and grading groundfish.
(2) In-Plant Quality Control: This relates to work performed in the new processing facility with regard to production, work flow, end product grade, etc.
(3) Marketing Intelligence: Supplying market intelligence to ISI in the area of changing world market trends in salt fish products.

Dockside Grading

To continue the Department's thrust of improving the quality of groundfish landed on Prince Edward Island, the Department of Fisheries in cooperation with the Department of Fisheries and Oceans funded the P.E.I. Groundfish Buyers to engage the services of six dockside grading monitors for the 1987 fishing season. The duties of the monitors were to:

(1) monitor the fish grading of industry graders,
(2) deal with any complaints regarding the lack of uniformity in grading,
(3) encourage fishermen to participate in the project,
(4) talk to fishermen regarding the problems they have in meeting the standards and going out in the fishing vessels to monitor handling procedures, and
(5) see that proper records are being maintained and statistics collected on a daily, weekly and monthly basis on all fish offered for grading.

Over thirty industry dockside graders were engaged during the 1987 fishing season. By year end over twelve million pounds of fish were offered for grading on Prince Edward Island with the following results:

	Grade A(%)	Grade B(%)	Grade C(%)
Flounder	3,631,399(74.7)	1,196,571(24.6)	36,182(0.7)
Hake	2,129,846(60.9)	1,324,941(37.9)	44,478(1.2)
Cod	3,209,510(75.3)	1,023,000(24.0)	31,260(0.7)

It has been recognized that a change in handling practices, both on board vessel and at dockside, has proven to be the major significant factor for increased Grade A landed fish. The majority of fishermen and processors have switched to insulated containers. Fish are gutted/bled, washed immediately on board and then stored in insulated containers in slush water, made from seawater, ice and salt.

Dockside grading courses were held in March for all industry graders.

The Department held two dockside grading courses in 1987, as well as one day fish quality seminars for interested fishermen in 15 separate communities throughout the Island.

Processors Quality Improvement Program (E.R.D.A.)

During the 1987 season, 22 federally registered processing plants on Prince Edward Island participated in the Processors Quality Improvement Program. Under this program, financial assistance was available on a 50/50 cost shared arrangement to registered plants on Prince Edward Island licensed to export. The funds were used to purchase infrastructure materials for the plants aimed towards improving fish quality. The infrastructure included items from insulated fish boxes to chilled brine tanks for groundfish fillets.

Plants that received assistance under the program are as follows:

1. Acadian Fishermen's Co-op Assoc. Ltd.
2. Alberton Fisheries Ltd.
3. Abeqweit Seafoods Ltd./Milligan's Fisheries Ltd.
4. Bluenose Fisheries
5. Babineau Fisheries Ltd.
6. Beach Point Fishermen's Coop
7. Cavendish Seafoods Inc.
8. Doiron Fisheries Ltd.
9. French River Canning Co.
10. Georgetown Packers
11. Howard's Cove Seafoods
12. International Seafoods Ltd.
13. Island Saltfish Inc.

14. Keeping and MacKay Ltd.
15. Malpeque Fishermens Coop
16. Murray Harbour Seafoods Ltd.
17. North Ocean Enterprises Ltd.
18. North Shore Packing Co. (1984) Ltd.
19. Souris Seafoods
20. Summerside Sea Products
21. Tignish Fishermen's Coop Assn. Ltd.
22. Wendell Graham (1981) Ltd.

Fishermen's Quality Enhancement Program (ERDA)

The Fishermen's Quality Enhancement Program was designed to provide an incentive bonus to bonafide P.E.I. groundfish fishermen to land top quality groundfish and thereby realize new market opportunities. The program provides a bonus of 10% of the value of Grade A fish sold to a P.E.I. processor.

The program is available to all P.E.I. groundfish fishermen who voluntarily offer their catches for grading at dockside. Proof of the grade A designation is provided by certified dockside graders employed by the P.E.I. Groundfish Buyers. Six dockside grader monitors hired jointly by Provincial and Federal Governments oversee the work of the industry graders.

The 1987-88 fiscal year is the third and final year of a three year program which commenced in 1985. The following table provides statistical data on program operation by calendar year and the program totals to-date:

YEAR	# OF APPLICANTS	TOTAL PAYMENT	AVERAGE PAYMENT
1985-86	297	$224,746.97	$756.72
1986-87	317	$294,382.72	$928.65
*1987-88	106	$134,169.57	$1,265.75

*(up to Dec. 31)

In Plant Training

The Processing Technician worked closely with the processing industry on a number of "In Plant Training Programs". Materials were developed in conjunction with personnel from Holland College.

The major training project in 1987 was that of developing and implementing training packages to be used in the plant via computer instruction. Extensive work was done to create study lessons for plant workers and management based on actual processing procedures and quality control practices.

These programs included:

- Basic Microbiology
- Plant Sanitation
- Personal Hygiene
- Fish Spoilage and It's Control
- Your Job and it's Importance
- Plant Clean-Up Procedures
- P.E.I. Fishery Statistics

Several other programs are being examined to determine their relevance to the P.E.I. fish processing industry.

Computer monitors were placed in several Island plants and the workers were given the opportunity to use the system. Work is presently underway to expand the use of the computerized system to include other plants in the coming year.

A "Code of Practice for Trout Processors" manual was compiled and will be ready for introduction to the public in early 1988. With a growing number of Islanders entering into the field of trout aquaculture and other related species, it was felt that there was a need to provide information on proper processing.

In Plant Training on a practical basis was provided to one Island plant in the methods of herring roe removal and the preparation of the raw product before processing. Other criteria such as plant layout and in product flow in regard to existing equipment was examined and acted upon.

In addition, other courses were sponsored by CEIC and prepared and instructed in conjunction with Holland College.

These included a Groundfish Processing Course held at Summerside Sea Products Ltd. This course was instructed by Holland College personnel and lasted for 7 weeks. 27 students were involved in this program. Theoretical instruction was provided and practical "hands on" training was carried out on topics such as filleting, trimming, candling, and packaging groundfish.

Technology Improvement

A "Mussel Product Development" project was carried out in January. Personnel from Provincial and Federal Fisheries and the private sector used their expertise in developing new and/or modified versions of products presently available in the marketplace. A week long "processing operation" took place using the pilot plant facilities at Holland College, Summerside, to produce the products. Several products were developed including

mussels on the half shell (two varieties), canned mussels in the shell, and breaded and battered mussels. "Island Blue" mussels were used in all the products.

Yield and labour cost studies were done at this time to determine the feasibility of producing these products. Strict sanitation and personal hygiene practices were exercised at all times. Test markets were explored and the feed back from the wholesalers proved promising.

It is envisaged that a commercial mussel processing operation will be initiated in the near future when volumes of cultured mussels grown warrant such development.

FINANCIAL SERVICES AND SPECIAL PROJECTS BRANCH

Donald Judson, Director

The Financial Services and Special Projects Branch provides financial services to various firms and individuals involved in the commercial fishery and special projects that impact on the P.E.I. fishery are prepared and implemented as needed.

Fish processors, moss harvesters, fishermen and service industries; e.g. boat builders, are assisted in a number of aspects related to financial matters that will lead to the development of their respective enterprises. These aspects include applications for development grants.

Programs currently implemented include Fleet Development, Commercial Fisherman's Investment Incentive and the Fishermans Capital Investment Fund. The Diesel Engine Conversion Program concluded this year. Support is provided to the fish processing sector in preparing financial projections for new developments and loan guarantees for special needs. Financial monitoring was carried out on a number of assistance projects.

The Branch operates as a liaison with the boat building industry on P.E.I. and in the Maritimes and also with the Seaplant harvesting and processing industry.

Special projects during 1987 included the Seaweed Stabilization Program, and the Basin Head Irish Moss Controlled Harvest Project.

The Director also represents the Department on related intra-provincial and Federal/Provincial committees.

Activities undertaken during the twelve months ending December 31, 1987 follow:

Near and Offshore Fleet Development Program

The Department continues to assess alternate methods of economically and safely landing our traditional share of fisheries resources in P.E.I. One such alternative is the construction of new hatched decked vessels by fishermen who have the required licenses for near shore or medium distance offshore vessels. A number of hatched decked vessels are now operating in the Gulf Region, owned by P.E.I. fishermen and engaged in the groundfish and crab fisheries.

A policy respecting the level of financial assistance

provided Island fishermen with a grant of 25% of the capital cost to a maximum of $35,000 for new near shore vessels over 30 gross registered tons. The level of assistance for medium and large size vessels depended upon individual proposals. On April 1, 1987, the level of assistance was revised to 25% of the capital cost to a maximum of $20,000 for new near shore vessels over 25 Gross Registered Tons.

Since the inception of the program, twenty-three fishermen have received assistance in the construction of new hatched deck vessels. Two fishermen received assistance in 1983/84; four in 1984/85; five in 1985/86; five in 1986/87 and seven to December 31, 1987. Twenty-two of the vessels constructed to date are less than 45' length overall and one is 55' length overall. Three are of wood construction, two of aluminum and eighteen of fibreglass. At December 31, 1987, fourteen applications were on hand, pending future program funding becoming available.

Fishermen's Investment Incentive Program:

Fishermen had requested, particularly during periods of high interest rates, preferential rates of interest for monies that they must invest directly into their fishing enterprises. For that reason, the Department put the Investment Incentive Program in place. Assistance was provided in the form of up to a four percentage point interest reduction grant paid directly to the fisherman upon receipt from a recognized lending institution of itemized charges related to approved projects. Eligible projects included new or used capital asset purchases, acquisition of fishing enterprises and fishing privileges, repairs to capital items and working capital loans. The interest rebate assistance is paid on an approved loan maximum of $30,000 for a maximum of five years. More than one loan can make up the total aggregate of $30,000.

The program was initiated on May 24, 1983 and having reached its objective of assisting during periods of high interest rates, came to a close April 1, 1987. Approved applications on file continue to be maintained for interest rebate claims for up to five years or until the loan is paid out whichever is the lesser. As well, a grace period is in effect for receipt of applications for loan amounts actually drawn down from lending agencies prior to April 1, 1987.

Since the inception of the program, 747 applications have been received of which 615 have been approved. During the calendar year to December 31, 1987, 135 applications were received with 102 approved, 16 declined and 17 pending. The following table provides statistical data on program operation by calendar year and program totals to-date:

Calendar Year	# App. Rec'd.	# App. Appv'd	Loan Base Amt. Approved	Average Loan
1983	63	47	397,415.77	8,455.65
1984	158	129	1,898,532.69	14,832.29
1985	195	182	2,913,093.96	16,094.44
1986	196	155	2,604,436.50	16,802.82
1987	135	102	2,025,493.66	19,857.78
TOTAL	747	615	9,838,972.58	15,998.33

Fishermen's initial claims average one year following loan approval, as the Investment Incentive Program pays claims when the interest payments have been made to the lender. Additional claims are made annually until the loan is retired or the five year maximum is reached. Following are details of claims paid:

Calendar Year	# Claims Paid	Total Paid	Average Claim Payment
1984	98	15,587.90	159.06
1985	319	92,610.17	290.31
1986	372	164,661.03	442.64
1987	399	194,021.90	486.27
TOTAL	1188	466,881.00	393.00

Diesel Engine Conversion Program

The Department initiated the Diesel Engine Conversion Program in 1982 to assist fishermen to convert to more fuel efficient diesel power in their existing fishing vessels. The Program provided assistance of 25% to a maximum of $2,500.00 to assist fishermen in the cost of converting from gasoline to diesel engines.

It is estimated that between those vessels already powered by diesel engines, newly constructed vessels that have had diesel power installed and those assisted under the Program, more than 50% of P.E.I. inshore vessels are diesel powered. It was, therefore, decided that the Program had reached its objective and it was terminated on September 11, 1986. No new applications for assistance were accepted after that date, however, applications on hand at the time were honored until July 31, 1987.

The total number of fishermen receiving financial assistance on new diesel engines up to July 31, 1987 was 368. Eighty-four fishermen received assistance to December 31, 1982; 49 in 1983; 47 in 1984; 96 in 1985 and 70 in 1986. As of July 31, 1987, 22 of the 29 applications carried over received assistance and seven withdrew. The 22 fishermen assisted in 1987 received a total of $54,140.00 for an average assistance of $2,460.91.

Fishermans Capital Investment Fund

The Department recognizes that fishermen require large sums of money for fleet acquisitions, purchase of new or used vessels and equipment and upgrading or modernizing capital equipment and that appropriate equity, or down payments are required at time of purchase. The Fishermans Capital Investment Fund was designed to encourage fishermen to invest in savings to allow for the future capital equipment requirements of their fishing enterprises. Initiated on April 1, 1987, the program augments a fishermen's annual $1,000 investment by $150.00. This assistance, accompanied by combined interest on the fishermen's investment and the additional investment by the Department, will assist the fisherman to accumulate a fund for purchase of necessary capital items. The Program provides for bonafide commercial fishermen to invest in the financial institution of their choice, with the Department investing its portion in Provincial Deposit Receipts at the P.E.I. Department of Finance. Fishermen may cash their investments at any time and the portion used for eligible items will form the basis for the Department's contribution.

The Program has experienced limited uptake and two reasons for that limited uptake have been identified. Fishermen have expressed their view that the $1,000 per year is small in relation to costs of larger capital items, such as vessels and engines. Secondly, smaller purchases, e.g. seines and nets, deck equipment and electronics are usually financed with cash or short term financing at the time of purchase. The program is currently under review to determine changes necessary to reach its primary objective of encouraging investment by fishermen

Seaweed Stabilization Program

The mixed moss (Irish Moss/Furcellaria mixture) industry in Eastern Kings County has traditionally been highly dependent upon one market outlet. One firm in Copenhagen has the ability to extract carrageenan and furcellaran simultaneously at commercial levels. Market demand for dried processed mixture was reducing in the early 1980's partially due to high inventories and reduced end use for extractions. The Department stepped in to save the industry until the private sector was in a position to ensure its long term future. For the period September, 1981 to 1983, the Province assisted the owner of the processing facility, in reducing its operating cost by reducing inventory holding charges. However, for the period 1984 to August, 1986, the Province leased the Naufrage buying and drying facilities, provided operating funds, purchased the mixed moss directly from the harvesters and processed and stored it.

Acadian Seaplants Ltd., as new owners, took over actual operation of the facilities in late August 1986. The Province ceased its operations at Naufrage and North Lake at that time. Acadian Seaplants Ltd. continues to purchase and process mixed moss from harvesters in the area.

Early in 1987, mixed moss inventory, owned by the Province, was palletized and grouped into similar lots preparatory to tendering it for sale and for easy movement to alternate storage freeing the Naufrage Plant area for further production in 1987. Inventory consisted of 1984, 1985 and spring of 1986 production and included sun dried baled and mechanically dried bagged product.

Tender packages were prepared and sent to approximately 30 known world firms and contacts and to 16 Canadian Embassies abroad on July 24, 1987, as well advertisements were placed in Prince Edward Island, Maritime and Toronto newspapers. Tenders closed on September 2, 1987. Product samples were forwarded to interested buyers with appropriate contact maintained.

237,000 lbs. of baled sundried mixed Chondrus and Furcellaria were sold to Wendell Stewart, St. Louis, P.E.I. with delivery taken in October 1987. The approximately 795,000 lbs. of mechanically dried mixed Chondrus and Furcellaria bagged in poly bags were sold to Acadian Seaplants Ltd. of Dartmouth, N.S. and Naufrage, P.E.I., with delivery taken starting in December 1987. A 1,000 lb. lot of mechanically dried bagged product was provided to the P.E.I. Hay & Straw Co-op, Rustico for testing as a feedstuff. Prices received for the product were affected by a number of factors, including a deterioration in the extracting quality of the seaweed due to its length of time in storage.

The Province has, therefore, concluded its Seaweed Stabilization Program with the Eastern Kings County industry returned to private enterprise in 1986 and the remaining Provincially owned inventory marketed in 1987.

Basin Head Irish Moss Harvest

A "giant" Irish Moss (Chondrus crispus) resource located in the river to the East of Basin Head Harbour is a unique strain. This Irish Moss is a large bushy reddish seaplant and grows free floating rather than attached to rock as most found in the outer coast of P.E.I. This strain is high in carrageenan yield and has a high ratio of Kappa to Lambda fraction. The population was estimated in 1977 to have a standing crop of 220,000 pounds wet weight. A biomass estimate in 1987 confirmed this amount and seems to indicate a stable population is maintained. It was felt that this resource could be partially harvested without damage to the population.

A controlled harvest of 50,000 lbs. wet weight was undertaken during the Nov. 2 - Nov. 7, 1987 period, to further studies in the regrowth of the "giant" moss and to obtain data and information on the raw material through sale to a commercial buyer/extractor. The Department obtained the requisite scientific collection permits from Fisheries and Oceans - Canada and hired four commercial moss harvesters from the area who used oyster dories with outboard motors and oyster tongs to navigate the shallow water and harvest the moss without disturbing the mud bottom. A total of 52,365 lbs. wet weight was unloaded at the Basin Head Wharf and sold to Acadian Seaplants Ltd., Naufrage, who provided land transportation to their commercial driers. A total of 11,738 lbs. of dry product was obtained. As of December 31, 1987, the dried product had been shipped by Acadian Seaplants Ltd. to an extractor for commercial evaluation. A re-survey of the 7.67 acre area is planned for 1988 to determine the effect of removal of 52,000 lbs. of material and the regenerative capacity of the resource to return to the static biomass level.

APPENDIX 1

DEPARTMENT OF FISHERIES

P.E.I. LOBSTER LANDINGS AND VALUES

(1920 - 1987)

V = Values in ($000's)
Q = Quantity in millions lbs.

	Q	V		Q	V
1920	8.3	703.9	1950	9.9	1,963.0
1921	6.4	258.3	1951	8.3	1,702.0
1922	8.8	651.4	1952	8.4	1,849.0
1923	9.7	878.8	1953	7.0	1,997.0
1924	6.5	564.8	1954	7.4	1,977.0
1925	7.9	661.1	1955	8.3	2,324.0
1926	6.6	601.8	1956	9.7	2,725.8
1927	6.3	617.1	1957	8.5	2,456.3
1928	6.6	553.1	1958	8.0	2,510.2
1929	7.4	621.5	1959	8.4	2,843.2
AVG. 20's	7.5	610.9	AVG. 50's	8.3	2,236.8
1930	8.1	539.7	1960	10.1	3,212.3
1931	9.4	553.7	1961	9.5	3,055.0
1932	11.5	551.7	1962	8.7	3,218.9
1933	9.2	396.2	1963	7.4	3,155.8
1934	7.7	536.0	1964	7.8	4,210.8
1935	6.4	467.8	1965	8.8	5,176.6
1936	6.0	544.4	1966	7.9	3,925.7
1937	5.8	524.8	1967	9.0	5,228.8
1938	7.1	458.8	1968	8.7	5,328.9
1939	7.0	464.4	1969	8.2	5,375.8
AVG. 30's	7.8	503.6	AVG. 60's	8.6	4,188.9
1940	5.6	353.9	1970	8.7	6,231.2
1941	6.0	469.2	1971	8.2	5,860.6
1942	6.4	694.8	1972	7.3	6,360.8
1943	6.0	999.9	1973	7.7	7,503.2
1944	6.6	1,149.7	1974	6.2	6,347.0
1945	8.1	1,503.6	1975	8.6	8,135.5
1946	7.9	1,982.7	1976	8.5	8,510.5
1947	6.2	1,070.0	1977	9.1	10,012.0
1948	6.5	1,411.9	1978	11.1	16,648.6
1949	6.8	1,388.4	1979	11.8	18,073.9
AVG. 40's	6.6	1,102.4	AVG. 70's	8.7	9,368.3
1980	11.8	15,458.0	1984	13.6	23,137.0
1981	11.9	18,519.0	1985	15.0	33,591.0
1982	12.2	22,599.0	1986	18.3	44,494.2
1983	15.5	29,056.1	1987 *	18.9	49,532.0

* Preliminary

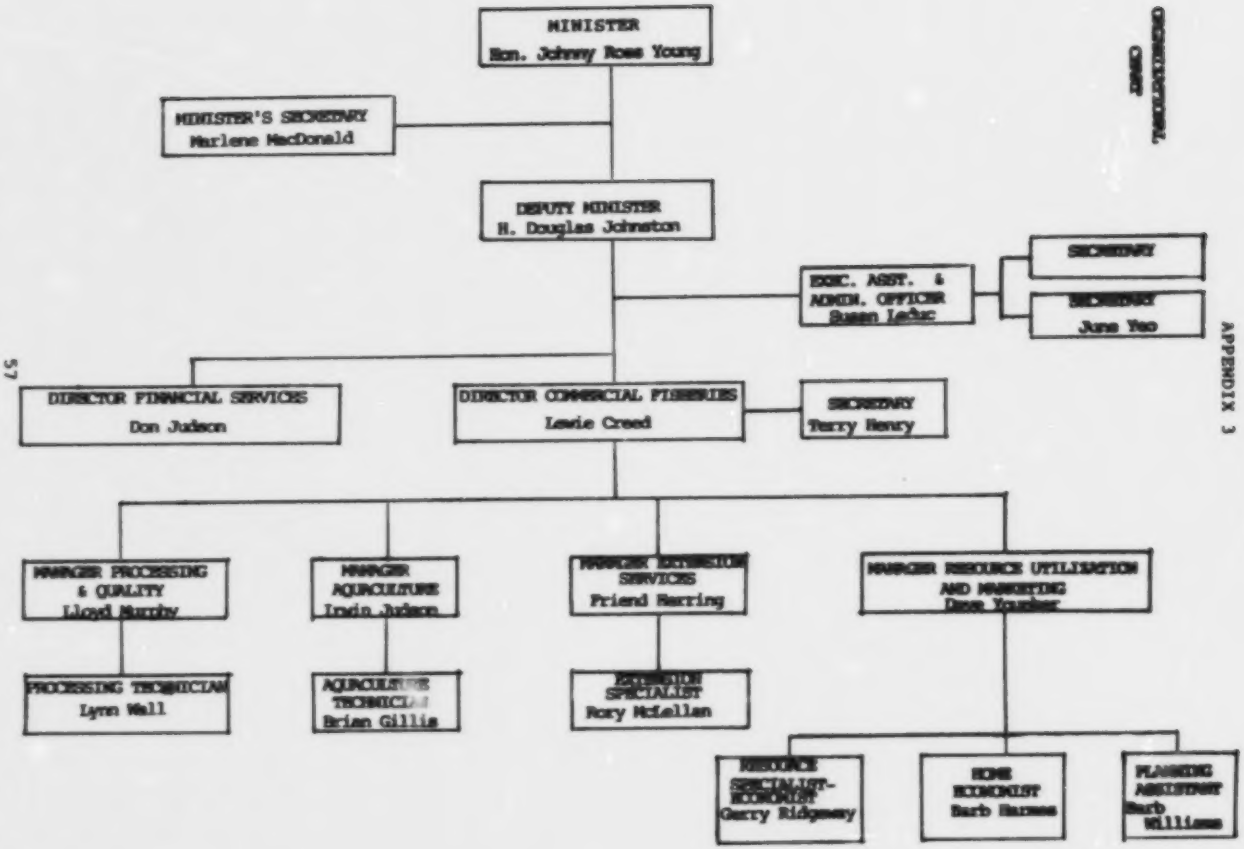
APPENDIX 2

GENERAL FACTS

Total No. of P.E.I. Fishermen and Helpers (approx.)	3,700
Total No. of Bonafide Fishermen*	1,379
Total No. of Commercial Fishermen**	3,083
Total No. of Vessels - Inshore	1,455
- Offshore	5
Licenses by Species:	
Groundfish	933
Herring	864
Mackerel	826
Tuna	360
Scallops	395
Lobster	1,308
Gaspereaux	667
Eels	274
Silversides	32
Total No. of Employees in Processing Plants Maximum	2,400
Total No. of Provincially Licensed and Federally Registered Export Plants (not including buying stations)	32
Total No. of Provincially Licensed Non-Export Plants	10
Total No. of Major Shellfish Shippers	10

*Bonafide Fishermen is a fisherman that is registered as a commercial fisherman, and is the holder of a limited fishery license, and as well meets one of the following conditions:
(1) is the holder of a Category A lobster license;
(2) is able to show proof that 75 percent or more of his income was derived from his previous year's fishing; or
(3) can show proof of sales of fish of a landed value in excess of $15,000.

** Commercial Fishermen is a person 16 years or older that has participated in commercial fisheries and is registered with the Department of Fisheries and Oceans as a Commercial Fisherman. Commercial Fishermen are categorized as A) bonafide, B) full-time, or C) part-time.


MINISTER
Hon. Johnny Ross Young
MINISTER'S SECRETARY
Marlene MacDonald
DEPUTY MINISTER
H. Douglas Johnston
EXEC. ASST. & ADMIN. OFFICER
Susan Leduc
SECRETARY
SECRETARY
June Yeo
DIRECTOR FINANCIAL SERVICES
Don Judson
DIRECTOR COMMERCIAL FISHERIES
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Lloyd Murphy
MANAGER AQUACULTURE
Irwin Judson
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Friend Herring
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Garry Ridgeway
HOME ECONOMIST
Barb Barnes
PLANNING ASSISTANT
Barb Williams